



August 1st, 2017

The Corporation of the Municipality of Temagami
7 Lakeshore Drive, P.O. Box 220,
Temagami, ON., P0H 2H0

Attention: Mr. Patrick Cormier, CAO

**RE: Letter of Opinion Regarding Filling in the New Ditches Along Spruce Drive
Exp Project No. NWL-01501017-00**

Dear Sir,

On May 18th, 2017, the Municipality of Temagami received written complaints regarding the construction of new ditches, as part of the infrastructure improvement project along Spruce Drive. The residents requested that the Municipality investigate the option to fill in the ditches.

At the time of the Request for Proposal, **exp** was advised not to specify storm sewers in the design, to reduce the overall cost of construction. **Exp** understood that bedrock was present and shallow in this area, and the proposal for deep storm sewers would be a significant cost to avoid. The approved design was cost effective, and comparable with the existing conditions for the watermain, sanitary sewers, and storm ditches.

A preliminary cost estimate had detailed the construction for a separate storm sewer for the length of the project, which would have increased the total project cost by approximately \$1.5 million dollars. A significant portion of that amount would have been from the large quantity of rock blasting required to run a second sewer line along Spruce Drive. The new sanitary sewer was placed within the rock trench previously blasted, for the original Spruce Drive infrastructure installation.

In an effort to modernize the street, and provide a long lasting and solid product, the approved design followed present day guidelines and standard engineering practices - which included the use of ditches to positively drain the base and subbase of the roadway.

This standard practice requires the bottom of the ditch elevation to be lower than the subbase elevation. Depending on the road design, the bottom of the ditch elevation is typically one meter lower than the elevation at the center of the road. The reasoning behind this practice is to prevent pooling of permanent ground water in the base and subbase of the road, which may lead to substandard road durability and frost heave issues during the winter months. This practice is common where storm sewers and storm subdrains are not physically or economically feasible.

Shallow ditches were deemed to be an unfeasible option during the design phase of this project, due to their inability to drain the road base.

Throughout the design and consultation phases of the project, the public was invited to comment on the proposed design and implementation, through the standard Municipal Class Environmental Assessment process. A notice was published in the Weekender on December 11th, 2015 extending an invitation for public to express their concerns, to provide input, and feedback.

Since the road design required deep ditches, the Municipality forecasted possible issues post construction. At the request of the Municipality, **Exp** held an open house at the arena on October 3rd, 2016, to allow the residents fronting on Spruce Drive to bring their concerns forward.

Due to resident concerns, on October 13th, 2016, Council revisited the ditching issue, and considered the following three options presented by **exp**:

- *Option 1:* Installation of a Shallow Storm Water system;
- *Option 2:* Increase the slope of the ditches, and line the ditches with rip-rap at an approximate cost of \$64,000; or
- *Option 3:* Proceed with the original design at no cost.

The recommendation was made to proceed with the original design, utilizing Option 3.

Aside from the additional upfront capital cost, filling in the ditches would have a negative impact on the longevity and durability of the newly constructed roadway. In doing so, drainage issues would likely occur, which would then increase the cost of road maintenance in the future. In conclusion, **exp** recommends against filling in the ditches.

Yours truly,

exp Services Inc

Per:



Nolan Dombroski, P.Eng.,
Branch Manager, Infrastructure.

c.c. – exp file